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## Preventing Childhood Overweight in Maryland

### Recommendations and Report of a Work Group Session

November 2002

Maryland Department of Health & Mental Hygiene  
Family Health Administration  
Office of Chronic Disease Prevention and Center for Maternal and Child Health

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## Preventing Childhood Overweight

The number of overweight children and adolescents has risen dramatically over the past forty years ( Figure 1). Currently, 15% of U.S. children and adolescents are overweight<sup>1</sup> and 15% of U.S. high school students are at risk of becoming overweight.<sup>2</sup> During the past twenty years, the percentage of children who are overweight has nearly doubled.<sup>3</sup>

From 1979-1999, annual national hospital costs associated with childhood overweight increased from \$35 million to \$127 million.<sup>3</sup> Over half of the overweight children 5 to 10 years old have at least one cardiovascular risk factor such as, high blood lipids, high blood pressure, or impaired glucose tolerance.<sup>4</sup> These and other consequences of overweight, such as psychosocial effects, can persist into adulthood.

Excess weight is a public health epidemic in the United States and in Maryland among adults as well as children. Almost 60% of U.S. and Maryland adults are now either overweight or obese.<sup>5</sup>

### **Body mass index (BMI)**

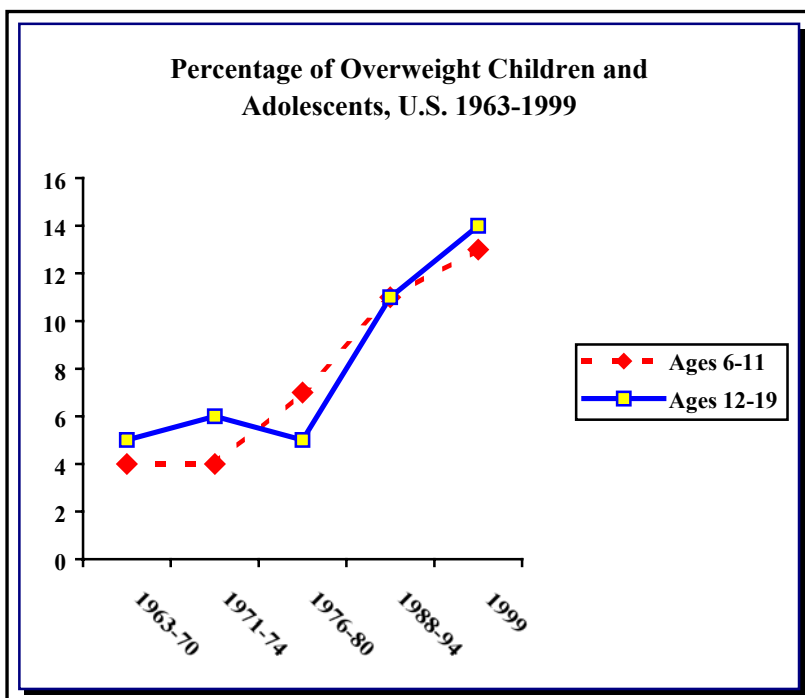
$$\text{BMI} = \frac{\text{Wt in kilograms}}{(\text{Ht in meters})^2}$$

### **Overweight in children**

BMI at or above the 95<sup>th</sup> percentile for age and gender

### **At risk for overweight in children**

BMI between the 85<sup>th</sup> - 95<sup>th</sup> percentiles of BMI for age and gender



According to *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*, obese individuals have a 50 to 100 percent increased risk of premature death compared to individuals with a BMI in the acceptable range.<sup>6</sup> Morbidity from obesity may be as great as from poverty, smoking or problem drinking.<sup>7</sup>

**Figure 1: Percentage of Overweight Children & Adolescents, U.S. 1963-1999<sup>2</sup>**

## Children's Eating and Activity Habits

Studies of the eating habits of children show that 80% of adolescents do not consume the recommended daily servings of fruits and vegetables<sup>8</sup> and that soft drinks are the leading source of added sugar in adolescent's diets, amounting to an average of eleven teaspoons of added sugar daily.<sup>9</sup> In addition, more than half of the snacks eaten by children are cookies, desserts, potato chips, salty snacks, candy or gum while only 17 % of children's snacks are fruits or vegetables.

Similar studies of children's activity habits show that children spend a large amount of time in sedentary activities. For example, 38 % of students in grades 9-12 report that they watch TV for more than three hours a day;<sup>8</sup> nearly half of all adolescents are not vigorously active on a regular basis; and approximately 10 % do not engage in *any* regular physical activity.<sup>8</sup>

There are almost no published data on BMI, dietary intake, and physical activity habits of Maryland children. The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) collects height and weight data on children under age 5 in order to determine nutrition risk. Eighteen percent of the children ages 1-4 years enrolled in the Maryland WIC Program in 2001 were overweight.<sup>10</sup>

### **Prevention Is The Key**

Preventing overweight in childhood and adolescence is the key to reversing the alarming trend in this epidemic. Overweight in childhood predicts overweight and obesity in adulthood, especially among adolescents.<sup>11</sup> Since lifelong nutrition and activity patterns are established during childhood, intervention during this time period is crucial to the development of healthy habits. For children and adults, overweight and obesity result primarily from excess calorie consumption combined with inadequate physical activity. Efforts to prevent overweight and obesity must seek to address factors related to both food consumption and physical activity habits.

### **Childhood Overweight Work Group**

A Childhood Overweight Work Group was convened in May 2002 by two programs within the Family Health Administration of the Maryland Department of Health and Mental Hygiene (DHMH) – the Office of Chronic Disease Prevention and the Center for Maternal and Child Health. Invited experts used their collective understanding of the issue of childhood overweight to develop recommendations for addressing the problem in Maryland.

Two models were used as a framework for development of the recommendations - the *Social-Ecological Model*<sup>12</sup> and the *PRECEDE-PROCEED Model*.<sup>13,14</sup>

- *The Social-Ecological model* describes five levels of influence on an individual's health and behavior. Risk factors that contribute to obesity are present at every level of this model, since the causes of overweight and obesity are multi-factorial. It is most useful for multi-dimensional program planning.
- *The PRECEDE-PROCEED model* focuses on desirable outcomes. After identifying the factors preceding the desired outcome, planners design programs to target these factors to achieve the desired outcome.

Meeting participants used a storytelling method to guide discussion of the factors related to childhood overweight and to arrive at their recommendations. The storytelling method, developed by The Center for Advancement of Health, is described in detail in *Appendix B*.<sup>15</sup> Participants were given five categories for use in organizing their recommendations:

- Families and Individuals
- Schools
- Media and Education
- Health Providers and the Medical Community
- Neighborhood and Community

A sixth category was identified and added as a result of the workgroup discussion:

- Research & Data Collection

The chart on the next page outlines the most significant predisposing, reinforcing and enabling factors related to childhood overweight. This chart was used as a starting point for workgroup discussion and development of the recommendations.

## Significant Factors Related to Childhood Overweight

FACTORS	DEFINITION	INFLUENCES	AFFECTED BY
<b>Predisposing Factors</b>	Individual factors that influences the individual's behavior such as knowledge, attitudes, beliefs, ability/skills or readiness to act; provides motivation.	<ul style="list-style-type: none"> <li>• Knowledge (guides food choices)</li> <li>• Attitudes about health, food, eating, exercise</li> <li>• Food preparation, cooking habits</li> </ul>	<ul style="list-style-type: none"> <li>• Family, Individual</li> <li>• School</li> <li>• Media &amp; Education</li> <li>• Health and Medical Community</li> <li>• Neighborhood &amp; Community</li> </ul>
<b>Reinforcing Factors</b>	Environmental factors that provide motivation and incentives or ability/skills for continued healthy behavior such as social support, praise, direct benefits.	<ul style="list-style-type: none"> <li>• Peer norms &amp; approval of eating habits, settings (social rewards)</li> <li>• Role models</li> <li>• Parental health, overweight or obesity</li> <li>• Parental attitudes (food rewards)</li> <li>• Cultural factors (preparation, foods)</li> </ul>	<ul style="list-style-type: none"> <li>• Family, Individual</li> <li>• School</li> <li>• Media &amp; Education</li> <li>• Health and Medical Community</li> <li>• Neighborhood &amp; Community</li> </ul>
<b>Enabling Factors</b>	Environmental factors that promote or facilitate behavior such as resources, policies, assistance, and services.	<ul style="list-style-type: none"> <li>• Access to foods</li> <li>• Access to safe play areas, neighborhoods</li> <li>• Access to educational, or other resources</li> </ul>	<ul style="list-style-type: none"> <li>• School</li> <li>• Health and Medical Community</li> <li>• Neighborhood &amp; Community</li> </ul>

For the purposes of the workgroup discussion, only the elements of the planning phases of the PRECEDE-PROCEED process were discussed. Recommendations set forth in this report will guide the State's continued planning process and will set the stage for choosing program goals and objectives, selecting program activities and developing implementation and evaluation measures.

## **Recommendations for Preventing Childhood Overweight**

Recommendations listed here are the top priorities of the Work Group participants. For a complete list of all recommendations of the Work Group, see *Appendix D*.

### **Families and Individuals**

Families and peers have a significant impact on children's eating habits and physical activity patterns. Parent's personal behaviors, health knowledge, child-rearing practices, and income are just a few of the factors influencing their children's weight. Children also may be reluctant to make food and activity choices that are different from their peers'.

#### *Family Education*

- Provide information to parents and families about healthy nutrition, activity, and the dangers of overweight
- Educate families about the affordability of preparing healthy foods at home
- Involve work-sites, faith-based communities, daycare centers, and schools in providing information on healthy lifestyles
- Help parents and children to plan meals, cook and eat together

#### *Physical Activity*

- Educate parents about the importance of engaging in physical activities with their children
- Help families participate in regular physical activities
- Encourage parents to set limits on their children's television and computer time

#### *Access to Services*

- Ensure that children and families enroll in all appropriate insurance programs
- Collaborate with outreach programs to provide information and support for families

### **Schools**

Schools can educate children about health behaviors and media influences, as well as providing healthy eating and activity environments. Children spend a large portion of their time at school, providing many opportunities to influence lifelong attitudes, knowledge, and behavior related to overweight prevention. Eliminating physical education classes, curtailing recess periods, competition from vending machine foods, and lack of relevant curriculum are just a few of the school issues related to childhood overweight. Schools may also be missing opportunities to assess student's weight and to intervene on overweight.

#### *General*

- Lengthen the school day to provide more time for recess, lunch, activities and health education
- Create and enforce State policies on operation of vending machines
- Offer transportation to recreation and community centers for after-school activities
- Engage parent-teacher associations to prevent childhood overweight and educate families



- Strengthen the Coordinated School Health Program to promote overweight prevention

#### *Physical Activity*

- Require both physical education and health education/nutrition education in all grades
- Require all students to participate in physical education or a sport every day
- Focus physical education on personal conditioning and healthy lifestyle activities rather than competitive sports
- Offer after-school physical activities at all skill levels
- Provide late “activity” buses so children can engage in activities after school hours
- Provide recess periods every day

#### *Food Service*

- Implement “Healthy Food Policies” to ensure that healthful food choices prevail in schools, including *a la carte* and vending machine options
- Serve healthy foods at school events, fund-raisers, dances and parties
- Implement quality improvement programs to improve the atmosphere and food served in school cafeterias
- Make foods served more attractive and appealing to students
- Inform all students and parents about school breakfast programs
- Help cafeteria staff educate students and encourage healthy choices
- Have a Registered Dietitian available to implement changes

#### *Health Assessment*

- Administer height and weight assessments during mandatory health screenings to assess risk and gather data
- Use health screenings to educate students about overweight prevention
- Open school-based health centers that offer health assessments, dental screening and prevention services

### **Media and Education**

Media shapes beliefs and preferences about food, weight and activity. Minimally nutritious foods are heavily marketed to children and adolescents. Media misinformation can confound the efforts of parents, schools and communities to promote healthy behaviors.

#### *Advocacy and Education*

- Target a public education campaign to parents and children involving TV, radio, schools, internet, community meetings, newsletters, peer educators
- Ensure that public health and community based agencies promote consistent messages about overweight
- Provide tailored health messages for specific communities based on community input
- Encourage peer educators, stakeholders, and celebrities to speak on overweight prevention

#### *Media Education*

- Work with the media to promote healthier messages about body shape, eating habits, and

activity that encourage health, not maximum thinness

- Show children of all shapes and sizes participating in physical activity
- Portray characters eating a healthy diet, being physically active and talking knowledgeably about good health habits

## **Health Care Providers**

Access to reasonably priced prevention and treatment services with knowledgeable health care providers is necessary to address childhood overweight. Attention must also be paid to ethnic, cultural and language differences.

### *Reimbursement & Policy*

- Make overweight prevention and treatment a billable diagnosis
- Mandate insurer coverage of overweight prevention and treatment
- Ensure that all children & families have health insurance

### *Health Care Provider Education*

- Provide educational materials on childhood overweight to health professionals
- Ensure that health care providers have the training, counseling skills, and cultural competence to help patients make behavioral changes
- Require health professional credentialing agencies to mandate continuing education in nutrition and overweight prevention

### *Patient Education*

- Provide education to patients in provider's offices
- Offer patients practical and "do-able" tips about healthy eating and physical activity
- Write "prescriptions" for patients to engage in exercise and activity
- Create a nutrition education curriculum to be implemented by churches, schools, and the health care community

## **Neighborhood and Community Factors**

Community environments and neighborhoods must be supportive of physical activity and healthy eating behaviors of children. Community groups must be aware of the problem and be engaged in the solution. Safe places to play, provision of recreational opportunities, transportation, decreased access to unhealthful foods, and access to reasonably priced, healthful foods, are some examples of community factors involved in obesity prevention.

### *State Policy & Funding*

- Implement a tax on foods of minimal nutritional value to fund parks and recreational facilities
- Encourage the application of smart growth principles in communities
- Fund and promote recreation centers that offer free, supervised programs
- Promote community gardens

*Transportation*

- Decrease barriers to being active, such as lack of public transit, sidewalks, streetlights
- Provide transportation to recreational centers, pools and parks from schools
- Ensure safe walking and biking routes to schools

*Coalitions and Partnerships*

- Promote local advocacy to engage stakeholders on the community issues
- Work with local groups to create and reinforce programs and messages, and serve as a “watchdog” on overweight and obesity
- Strengthen community organizations that serve recent immigrants

*Work-Sites*

- Promote work-site education and support for employees and clients
- Encourage work-sites to sponsor sports leagues, offer health insurance, access to fitness facilities, pedometers, etc.
- Provide incentives to restaurants and grocery stores for offering affordable, healthy foods
- Market healthy foods to children and young adults

**Research & Data Collection**

There is almost no published information about the scope of the problem of childhood overweight in Maryland. Lack of data, and disorganized systems for sharing of available data, make it difficult to assess the problem and monitor interventions.

*Research and Data Collection*

- Implement the Youth Risk Behavior Surveillance System (YRBSS) or another surveillance system for collecting data about weight, eating habits and physical activity patterns of children in Maryland
- Gather and analyze data from schools and wellness centers
- Engage community agencies and individuals in identifying needs and addressing them through educational and outreach campaigns
- Collect qualitative information, such as focus group information, about health, weight and community intervention strategies
- Link health research agencies and community based organizations to develop and implement health promotion programs
- Identify best practices

## Appendices

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*Appendix B.***Meeting Objectives, Agenda and Models****Meeting Objectives:**

- Discuss intervention strategies based on health education principles and an understanding of risk factors for obesity.
- Determine and prioritize potential program activities.
- Develop recommendations to DHMH regarding programs for childhood overweight and obesity prevention.
- Discuss long-term strategic planning and intervention planning activities

**Meeting Agenda:**

8:30 – 9:00 am	Breakfast and Registration
9:00 – 10:00 am	<p><i>Welcome and Introductions:</i> Bonnie Birkel, CRNP, MPH, Center for Maternal &amp; Child Health</p> <p><i>Meeting Objectives:</i> Cheryl D. De Pinto, MD, MPH, Center for Maternal and Child Health</p> <p><i>Overview of Obesity Issues in Maryland:</i> Carol Miller, RD, MEd, Division of Cardiovascular Health and Nutrition</p> <p><i>Prevention Planning Framework:</i> Cheryl De Pinto</p> <p><i>Meeting Overview and Process:</i> Susan Flinn, MA, Oxygen Communications</p>
10:00 – 10:15 am	Break
10:15 – 11:45 am	<i>Group Session I</i> Present Day Experience Stories
11:45 – 12:45 pm	LUNCH
12:45 – 2:00 pm	<i>Group Session II</i> CARE Statement and Ideal Experience Stories
2:00 – 2:15 pm	<i>Physical Activity</i> Elizabeth Gallun, BS, MA, Maryland State Department of Education
2:15 – 3:00 pm	<i>Group session reports</i> Susan Flinn, Maryann Krayner, Susan Messina, Barbara Burton, Oxygen Communications
3:00 – 3: 45 pm	<i>Individual Priority Setting</i> Cheryl D. De Pinto, Susan Flinn
3:45 – 4:00 pm	<i>Next Steps:</i> Cheryl D. De Pinto



## **Discussion Framework and Models**

### **The Social-Ecological Model**<sup>12</sup>

*The Social-Ecological Model* provides a framework for the factors related to overweight and obesity within the context of an individual and his environment. The model sets forth five levels of influence on an individual's health and behavior. According to the model, health promotion efforts to prevent overweight can focus on one or several intervention levels, as follows:

- *Individual Level*—Includes an individual's knowledge, attitudes, beliefs, personality, skills and likes/dislikes, as well as genetic predisposition to overweight.
- *Interpersonal Level*—Includes the individual's close social contacts that shape identity and health behaviors such as family, friends, social networks, and peer/ family norms.
- *Institutional or Organizational Level*—Includes regulations and policies of local institutions and organizations such as work-sites, schools, churches and other community agencies.
- *Community Level*—Includes larger organizational influences such as social networks, social norms, standards and resources.
- *Social Structure, Policy, and Systems*—Includes local and State policies and laws that regulate or support health behavior, local and state resources, societal norms, food pricing structure, and health systems.

Risk factors that contribute to overweight are present at every level of this model, since the causes of overweight are multi-factorial. Prevention programs must consider factors at each level to be successful. In addition, the interaction between levels of factors must be addressed. For example, an individual with the knowledge and skills for behavior change, may have difficulty changing due to restrictions imposed by interpersonal or community factors.

### **The PRECEDE-PROCEED Model**<sup>13,14</sup>

The second framework discussed for overweight prevention program planning was the PRECEDE-PROCEED program-planning model. The model recognizes that multiple factors affect health promotion and risk, and that efforts to change individual behavior and the broader society/community must also be multidimensional. Assessing individual and community beliefs is a major component of this model since the interventions must be appropriate and relevant to the target population.

The focus of the PRECEDE-PROCEED model is on outcomes rather than inputs. Program planners begin by examining the desired outcome and performing assessments on the community and individuals. After identifying the factors that precede the desired outcome, programs are designed to target these factors.

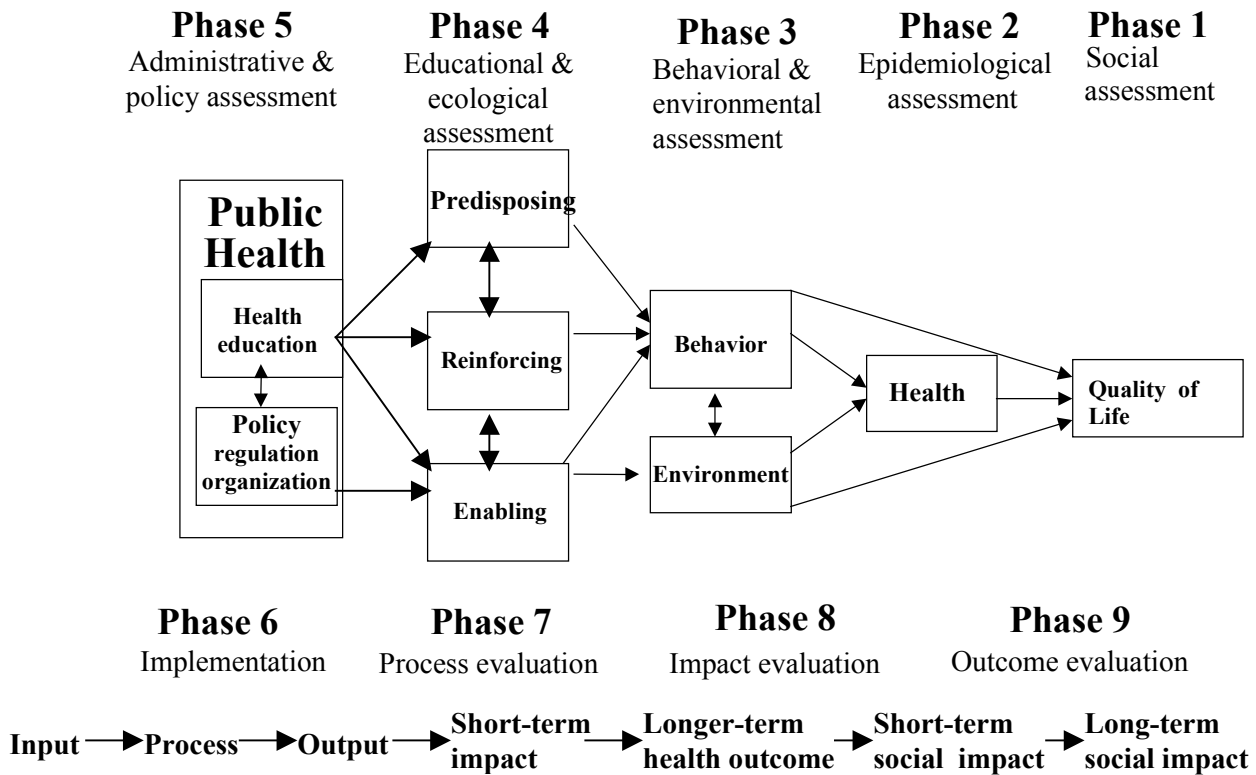
#### **PRECEDE =**

- Predisposing
- Reinforcing, and
- Enabling
- Constructs in
- Educational/Environmental
- Diagnosis and
- Evaluation

#### **PROCEED =**

- Policy,
- Regulatory, and
- Organizational
- Constructs in
- Educational/Environmental
- Development

**Surveillance, Planning and Evaluating for Policy and Action:  
PRECEDE-PROCEED MODEL <sup>13</sup>**



Applying the PRECEDE-PROCEED program planning process to the problem of childhood overweight requires assessment. The five phases in the assessment (PRECEDE) part of the model are as follows:

- ***Phase I -- Social Diagnosis:*** This phase identifies health problems that affect individual quality of life, needs and wants of the target population, and barriers that exist. Participation of the target population in this phase is the foundation of the model.
- ***Phase II -- Epidemiological Assessment and Diagnosis:*** During this phase, data and statistical information is gathered about the specific issues associated with the health problems identified in the social diagnosis.
- ***Phase III -- Behavioral and Environmental Diagnosis:*** This phase defines specific behaviors and environmental factors that the intervention program will address.
- ***Phase IV -- Educational and Organizational/Ecological Diagnosis:*** This phase identifies the predisposing, reinforcing and enabling factors that affect behavior. They may be factors at every level of the social ecological model which may be explained by behavioral theories.
- ***Phase V -- Administrative & Policy Diagnosis:*** This phase describes the resources that are

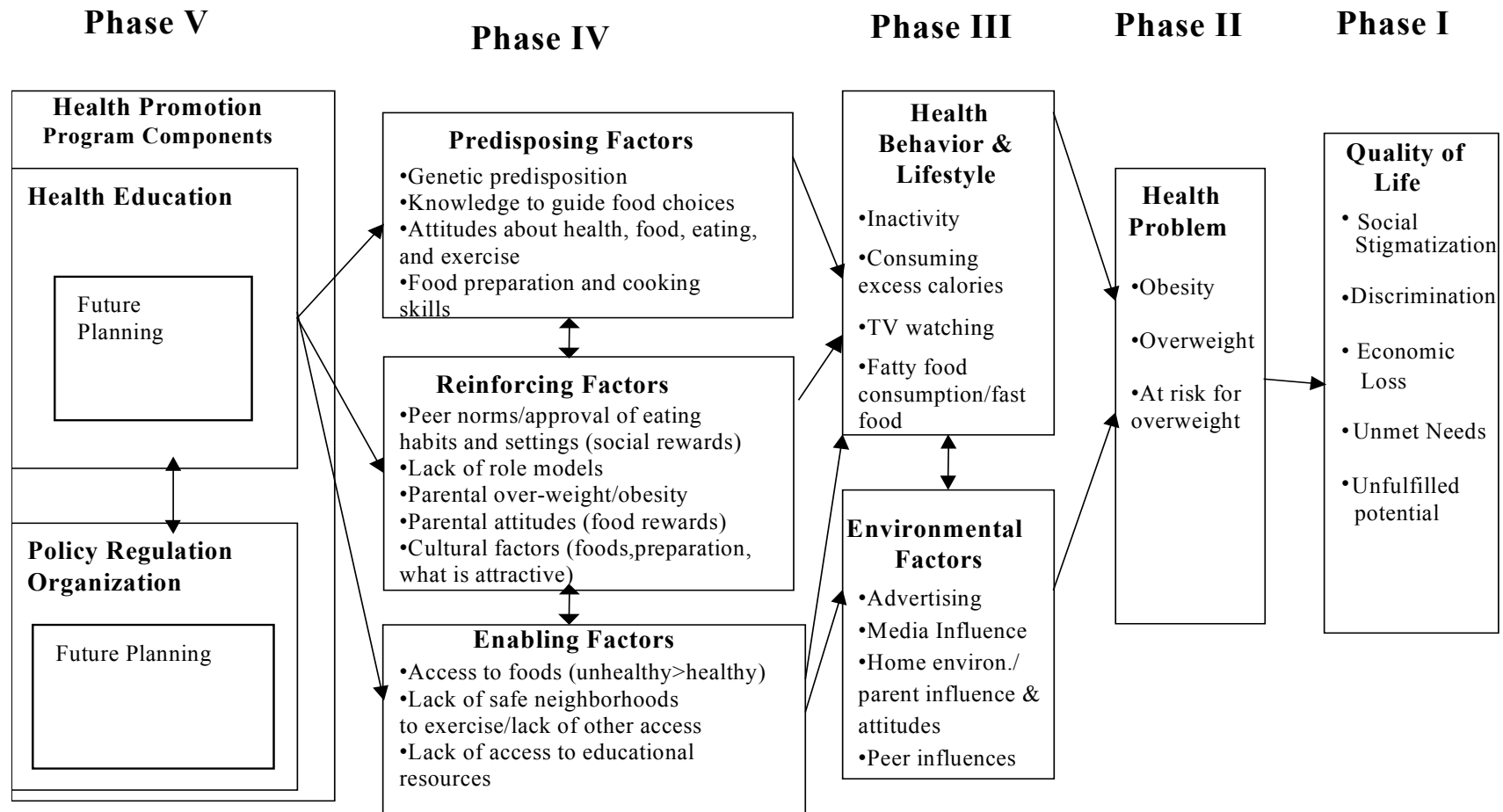
needed for intervention; the resources that are available; the barriers to intervention and the supports for intervention.

During the *PRECEDE* phase, assessments help the planner identify the best ways to influence behavior and build effective programs. Effective programs strive to address predisposing factors by influencing the individual's knowledge, attitudes, beliefs, and/or readiness to act. Reinforcing factors provide motivation, incentives and skills to support healthy behaviors. Incentives can include social support, praise, and other direct benefits, while disincentives would include family conflict or social isolation. Enabling factors must also be addressed. These are factors that promote the desired behavior using resources, policies, assistance, and services.

During the *PROCEED* phase of the model, process, impact and outcome evaluations are incorporated. The second part of the model was not part of the workgroup meeting discussions, due to time constraints, but will be used with the group later in the planning process.

Based on a review of the literature on overweight and obesity, in adults as well as children, the model in Figure 3 (next page) was suggested to the group as a starting point. This model will be refined and revised, as new Maryland-specific data becomes available. This model was shared with the group in order to illustrate the complexity of obesity prevention planning and the multi-factorial nature of the problem.

**Figure 3: Precede/Proceed Model Developed for Workgroup Session**



## Appendix C.

### The Storytelling Process

To capture participant's recommendations for overweight prevention, a storytelling process, created by the Center for the Advancement of Health, was used.<sup>15</sup> Each Work Group developed a narrative about how children and families experience the health care and prevention system as it is today, then created a second story about how the experience would differ in an improved environment. Where the two stories differ indicates areas where change can, and should, occur.

As The Center notes, "The storytelling process is a powerful tool for helping groups of people articulate clearly their views." Storytelling focuses on both the broad experiences and the personal details of the individual. It helped the groups examine interactions between children, their families and their communities; describe how children's environments impact their risk status; and identify areas where change and improvement are needed.

Four vignettes incorporating risk factors for childhood overweight were developed for the meeting. They are: *Kenny*, a nine-year old African American boy from Baltimore; *Darla*, a 14-year old Caucasian girl from Western Maryland; *Jose*, a five-year old Salvadoran-American boy from the Eastern Shore; and *Shannon*, a 12-year old African American girl from suburban Baltimore.

Workgroup participants were divided into four smaller groups, each considering one of the above vignettes. First they generated detailed stories about individual experiences with overweight by answering a series of questions related to current practices in Maryland. Then the facilitators shared a framework called CARE: Communication, Action, Research and Education derived from *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*<sup>6</sup>. Participants discussed the factors related to childhood overweight in relation to the CARE framework; then re-wrote the stories to describe programs and policies that could be implemented, changed or expanded in order to prevent childhood overweight. The CARE framework is as follows:

**Communication:** Provision of information and tools to motivate and empower decision- makers at the governmental, organizational, community, family, and individual levels who will create change toward the prevention and decrease of overweight and obesity.

**Action:** Intervention and activities that assist decision makers in preventing and decreasing overweight and obesity, individually or collectively.

**Research and Education:** Investigations to better understand the causes of overweight and obesity, to assess the effectiveness of interventions, and to develop new communication and action strategies.

Participants reported back to the larger group on their recommendations for preventing childhood overweight, then prioritized the recommendations.

**KENNY - African American urban boy.**

Kenny is a nine-year old African American boy who lives in Baltimore with his mom and his six-year old brother. His dad works at a printing factory, and also works night shift as a security guard, to help save money for the kids' college funds. His mom works at Hechts' downtown and has been scheduled on the evening shifts a lot lately. The family health insurance is from MCHIP.

Kenny has been really sad ever since his grandmother died last fall. What makes it worse is that his parents' work schedules mean they don't have as much free time to spend with the kids these days. Kenneth misses his grandmother, and misses having his parents around as much as he'd like to.

Kenny goes to public school in Baltimore, which he likes a lot. He really enjoys his English teacher, the principal, and the school nurse. The school is nearby and sometimes Kenny walks when the weather is nice. He is a good student, although he's tired in the mornings, because school starts so early. It can be hard to concentrate when he's feeling tired. Kenny tries to pack his lunch, but often runs out of time and ends up eating in the cafeteria. All his friends eat there anyway, so it's just really easier to get a cheeseburger and fries with them than to get up early and pack a lunch. He likes it when one of the booster clubs is having a fundraiser and selling goodies, like cupcakes.

He doesn't have gym class this year. Kenny would like to try out for the a team, like maybe basketball, but no one's ever invited him to do that, and he's a little unsure about whether he'd be good enough. He's not sure who would watch his little brother after school if he weren't around. It would be great if there were a way to play basketball near his home, but he's not sure if there is. A bunch of guys play basketball on a court near his house, but they're all older men and he might not be welcome in their game, he thinks. Besides, he's too short to play with them. Sometimes, when the court is free, Kenny plays basketball with his little brother, but he gets short of breath when he's run around for a while.

His mother doesn't think the neighborhood is safe enough for Kenny and his brother to play outside much. Kenny's grandmother used to watch the kids when they played at the park, but now there's no one to do that. Because Kenny's mom gets nervous when the kids are roaming around while she and her husband are at work, the kids mostly stay inside and watch TV or do their homework. They like to watch the crazy stunts that those Motorcross guys do on their bikes, and are avid Raven's fans.

Kenny and his brother used to go to the community center nearby, but it was closed for repairs last year and hasn't opened again – his mom said it had something to do with there being no money to fix all the building's problems. When Kenny feels really sad about his grandmother being gone, or bored with TV, he and his brother walk over to the corner store for potato chips and sodas.

With his parents working so much, Kenny is taking on more of the cooking. There aren't many grocery stores within walking distance of their apartment, though, so Kenny relies on prepared and frozen meals a lot. Since he doesn't really know that much about cooking anyway, he likes how easy these foods are to make. He especially likes Chicken Kiev, because of the way the butter spurts out when you cut into the chicken. Kenny's family often goes out to the many fast food restaurants around, which is quick and easy for everyone. On special occasions, his family celebrates with huge, wonderful meals featuring smothered pork chops, deviled eggs and candied sweet potatoes.

Kenny feels good about himself and his physicals always go fine. Kenny's pediatrician has never talked with the family about exercise or diet, nor mentioned any concerns about either child's weight. His parents assume that Kenny and his brother are doing all right. Doctor's know about these things and would bring it

## **KENNY – Discussion Questions**

### **FAMILY**

- How has Kenny's grandmother's death and parents' work schedules affected his eating patterns and habits?
- Is Kenny's family supportive of healthy eating and activity?
- Do they do anything physical either individually or as a family?
- How much time do they spend together as a family?
- What kind of meals do they eat together?
- What kind of snacks are available in the home for Kenny?
- How expensive is it for the family to buy groceries where they live?

#### SCHOOL

- How does the school encourage kids to participate in sports?
- Is the school facility open after hours for teens to use?
- What kind of nutrition information does Kenny get at school?
- When is PE a requirement for students his age?
- How does the school schedule impact Kenny's sleeping and eating patterns?
- What kind of a la carte and vending machines are in the school?
- What is the school policy on vending machine access? Is it being followed?
- How is the school assessing or assisting kids at risk of overweight?

#### HEALTH COMMUNITY

- Does the school nurse talk to Kenny about healthy eating?
- Does his insurance make information or programs available to help people learn about overweight and obesity? What are these programs like?
- How likely is Kenny's doctor to talk to his about weight, his diet or level of physical activity?
- Is the doctor reimbursed for any discussions or assessments about overweight or physical activity?
- What kind of counseling and support is available to his from his doctor?
- How does his provider help him make positive, healthy changes?

#### MEDIA & EDUCATION

- What information does Kenny get about healthy weight?
- Where is he getting information about and what people "should" look like?
- What public information is available to Kenny's family about the dangers of obesity?
- How much stress is there on exercise and healthy eating in the community?
- What kinds of advertisements for food does Kenny see on TV?

#### COMMUNITY

- Is it safe for Kenny to walk to school?
- What is the parks and recreation program like in Kenny's community?
- What is transportation around his community like?
- How safe is it where he lives?
- How supervised are the parks and community centers where he and his brother could play?
- How does the community encourage physical activity among its members?
- What kind of affordable/accessible community centers and sports facilities exist?
- What kinds of community physical activity programs exist?
- What kind of food is available at the local restaurants?
- What kind of grocery stores are available in the community?

### **DARLA-Caucasian, suburban girl in Western Maryland**

Darla is a 14-year old Caucasian girl who lives in Sharpsburg, a small town in Western Maryland, near Hagerstown. Her parents are divorced; her mom works at a stationary store in Hagerstown and her dad works at the local Southern States store. Darla, her brother, and her mom have HMO insurance coverage and, while times are tight, they get by. Darla has always been heavy and she's gaining weight as she gets older. She wishes she was thinner, and sometimes she and her mom try dieting together. But, everyone in her family is a little heavy, and nobody else seems overly concerned about Darla's weight.

The school day starts really early, and Darla is often tired in the mornings, so she skips breakfast, or just has a glass of fruit juice. This year she has a complicated school schedule and her lunch period is late in the day. Darla is often famished by the time lunch comes around, so she has a soda between morning classes to keep her energy up. The food in the cafeteria is really boring (things like Turkey Tetrazini, boxed mashed potatoes, and cheese pizza) and often seems overcooked and greasy. Darla often gets a candy bar from the vending machines instead. Next year, she'll be allowed to leave campus, and then she can go to the Taco Bell and get a really tasty lunch.

Darla often tries to opt out of PE class because she's self-conscious about her weight and the other kids tease her. She says she's sick or has cramps in order to avoid the embarrassment of getting undressed in the locker room or looking clumsy in front of other kids. Darla feels like she runs more slowly, reacts more sluggishly, and gets tired more quickly than other students. She's just uncoordinated, she thinks. Some of the boys tease her about being a klutz, and she is often the last one picked for teams. The popular kids are all school athletes; to Darla, they seem like they're from another planet and she doesn't interact socially with them at all.

From TV, Darla knows that yoga is really popular. She'd like to try it, since it doesn't involve throwing or catching anything, and there are no teams. They don't offer it in PE classes, though, and she doesn't know where she could take a class outside of school. Anyway, she wouldn't have a way to get to a yoga class until she gets her driver's license in a couple of years.

When the school bus drops her off after school, Darla likes to spend time on the computer and watching TV. Darla's mom likes to watch TV at night too, so Darla enjoys the afternoons when she's home alone and can watch whatever she wants. Her mom always makes sure there's sodas, potato chips and Snickers bars for the kids to snack on before dinner. There are lots of houses near Darla's, but no community centers or recreation centers. There's a wooded park area, but Darla thinks it's boring just to be outside without anything to do.

Darla wishes she could look like the models she sees on TV and in the movies, but she's tried dieting and it never works. Darla and her mom occasionally try diet foods together, but her older brother thinks it's stupid. He complains about being deprived when the women are cutting calories or trying things like the cabbage diet. Darla would like to lose weight, but she has no specific plan in mind, other than that she'd like to look like a supermodel. She searched the Internet about dieting, but found the information too confusing and overwhelming. Darla usually just looks at the pictures and thinks about being thin. Sometimes she wishes someone would tell her how to diet, but she's been too embarrassed to ask at her check-ups.

Her mom does the grocery shopping on her way home from work, and doesn't have the energy to make special meals for Darla if they're not dieting together. Usually, the family eats hamburgers, BBQ ribs, potato salad, lasagna, and ice cream, and Darla cleans her plate like her mom tells her to. On special occasions, the family goes to Outback Steakhouse in Hagerstown to celebrate with the Bloomin' Onion and chicken-fried steak.

### **JOSE-Rural, Eastern Shore Hispanic boy**

Jose is a five-year old Salvadoran-American boy who lives in Selbyville, on the Eastern Shore. His mom



works at the CVS, and his father works at a nearby farm. The family has no health insurance, and money is always tight for them. They have one car, which makes it hard to get around their rural, agricultural community.

Jose's kindergarten is an hour-long bus ride away. His mother gets the family up really early so they can have a big breakfast together, just like she used to have back at home in El Salvador. She serves fried plantain with refried beans, fried eggs and sour cream served in thick tortillas. At night, he sometimes has a snack his mom makes, of fried doughy cakes of maize stuffed with cheese, beans or pork. His mother gives Jose money to buy a snack every day; he usually chooses soda, which he never gets at home because his mom says it's too expensive.

Jose has some friends, but isn't the most popular kid at kindergarten. His family speaks primarily Spanish at home and he is still learning English. He is proud when he can translate new words for his parents but he doesn't always feel comfortable around kids who only speak English. Some of the others tease him because he is one of the few Hispanic kids in the school, and he feels like an outsider. Kids at his kindergarten are just starting to play sports and join local groups for sports like swimming and soccer, but Jose isn't playing on an organized group just yet. He likes to watch the soccer matches on TV with his dad, but he hasn't really expressed an interest in playing the game. To play with these groups, he'd need equipment and to join the team membership.

After kindergarten, Jose goes to a childcare center in the same mall as his mom's CVS. There aren't any sidewalks or parks near the center, so the kids spend a lot of time doing art projects and other things inside. He wishes there were more kids his age that lived near his house. At home, his mom doesn't let him roam very far on his own, since he's so young and she's worried he might get hit by a car. She gets nervous when he plays outside at night, because the area is so dark after dusk. His older brother just got a Nintendo game for Christmas, and Jose likes to play with that, when he's allowed. Mainly, he helps his mother and watches TV.

Jose's mom loves to cook, and she always puts a good meal on the table. Most nights, the family eats fried fish or beef, with a dessert made from a fried or baked sweet bread, and hot chocolate on the side. He particularly loves her a dessert made from fried yucca covered with a dense black treacle of sugar cane. It's important to his mom that Jose eats everything on his plate, and he is always offered seconds of her delicious cooking. When he doesn't feel hungry, sometimes his mom gets upset when he doesn't eat everything she offers. No one is going to go hungry in her house, his mother always says.

Jose's family gets most of their health care at the community health center in a nearby town. He likes the staff there, and they're always really nice to him. His mom's seen posters about obesity, which mainly address issues like preventing diabetes. The health care provider has talked to Jose's mother about healthy weight and healthy fat intake, but she thinks Jose is doing fine. Although the community health center has a Spanish-speaking staff person, Jose's mother has only worked with her once. At other appointments she tries to listen carefully to what they tell her but often she doesn't really understand what they are saying. She feels it would be rude to keep asking them to repeat things and ask too many questions though. When she was growing up, she didn't have a sign of poor health, so Jose's mother doesn't worry about his weight.

Shannon is a 12-year old African American girl who lives in Clarksville. Her father is a trial lawyer who practices in Baltimore, and her mother is a stay-at-home mom. Shannon's parents dote on their three kids and her mom's always there when the younger girls get home from school.

Shannon's mom gets her up early for breakfast, usually cereal and toast with juice, and then drives the girls

to school every morning. Shannon's mom packs their lunches too; Shannon thinks that's dorky and often just eats in the cafeteria with her friends, less because the food is better than to be like everyone else. Sometimes Shannon trades the apple in her lunch for Doritos or, just throws it away. Shannon takes the bus back from school, which is good because she can get a soda from the school's vending machines and drink it on the bus on the way home.

Shannon does well in school, and applies herself to her classes. Shannon's parents put a lot of pressure on her to do well academically and stay active in things like student leadership. Her dad wants her to get involved in student government when she's older. Her parents want Shannon to get used to working hard so she'll be ready when the challenges and distractions of school increase, and are determined for her to attend the best college possible. Her older brother is going to a good college next year, and they expect Shannon and her younger sister to attend colleges just as good. Shannon's parents are sticklers for making sure the girls complete their homework every night, and won't let her watch TV or talk on the phone until she's done with everything. Her mom makes popcorn for her to eat while she's working.

Shannon is interested trying out for the dance squad, or maybe for cheerleading team later when she's older, in junior high. She's a little afraid she wouldn't get picked, though, and that would be humilia-ting. All the girls on the dance squad have known one another for years, and it's a little intimidating to try out in front of everyone. Maybe she'll get her courage up next year, but her parents say she can't do any activities that would interfere with her grades. Shannon's mom thinks that it's not lady-like for girls to play rough sports, and is also afraid that Shannon would hurt herself. One girl in the school broke her femur playing field hockey, and was in a cast for a year. That would really hurt her academics, and her mother would prefer that Shannon and her sister stay away from the team sports at school. A school sport might be good for college admissions, though, so her mom is trying to keep an open mind about the cheerleading idea.

Shannon's parents think she spends too much time talking with her friends, but they put in a second phone line so their phone wouldn't be busy for hours on end. It's also useful for Shannon to have her own Internet connection, which helps her do research for her schoolwork. She also likes to chat with her friends online and spends a lot of time surfing the net. Shannon is good about helping out around the house. The only thing she slacks off about is the dog; when it's her turn to walk him, she just lets him out instead of running around with him.

Shannon's mother tries to help foster a positive body image and not buy into what she sees as sexist cultural standards that overvalue thinness. One of Shannon's mom's friends was anorexic, and her mom wants to make sure her daughters never feel that way about their bodies. There's too much focus on women dieting and starving themselves, says her mom, and Shannon should be proud of her body.

The family eats dinner together every night. Last night they had roast chicken with stuffing, Brussels sprouts, mashed potatoes and gravy, and cherry cobbler for dessert. Shannon hates Brussels sprouts, so she skipped them, and had two helpings of dessert. Shannon's mom makes them eat everything on their plates; it's one way to teach the girls that it's OK to have a good appetite. Shannon's pediatrician has never mentioned the need for her to lose or gain weight, so her mom assumes she's doing all right.

#### *Appendix D.*

#### **Chart of Complete List of Recommendations for Childhood Obesity Prevention**

<b><u>MODEL LEVEL</u></b> <sup>12</sup>	<b><u>Individual</u></b>	<b><u>Interpersonal</u></b>	<b><u>Organizational/ Institutional</u></b>	<b><u>Community</u></b>	<b><u>Systems, Social Structure, and Policy</u></b>
<b><u>FACTORS</u></b>	Knowledge,	Close social	Policies and	Organizational	Broad systems

<b><u>AFFECTED</u></b>	attitudes, beliefs, personality, skills, genetic predisposition	contacts and networks that help shape identity & health behaviors (family, friends, social network)	regulations that impact individuals through work-sites, schools, churches and community agencies.	influences: social networks, norms, standards and resources	and regulations and policies that affect the system in which the individual's health occurs.
<b>Families and Individuals</b>					
Provide information to parents & families about healthy nutrition, activity & the dangers of overweight	X	X		X	
Educate families about the affordability of preparing meals at home	X	X		X	
Involve worksites, faith-based communities, daycare centers, and schools in providing information on healthy lifestyles			X	X	X
Help parents and children to plan meals, cook and eat together	X	X		X	
Educate parents about the importance of engaging in physical activities with their children	X	X		X	
Help families participate in regular physical activity	X	X		X	
Encourage parents to set limits on television and computer time	X	X		X	
Involve parents in school sports and activities	X	X		X	
Collaborate with WIC program to identify at-risk children		X	X	X	
Review best practices to identify models for intervention planning	X	X	X	X	X
Survey public health professionals to identify gaps in knowledge	X	X	X	X	X
Ensure that children & families enroll in appropriate insurance programs.	X	X	X	X	X
Collaborate with outreach programs to provide information and support for families	X	X	X	X	X

<b>Schools</b>					
Lengthen school day to provide more time for recess, lunch, physical activity and health education	X		X	X	X
Create and enforce State policies on operation of vending machines	X		X	X	X
Offer transportation to recreation & community centers for after-school activities	X	X	X	X	X
Provide late “activity” buses so children can stay at school later	X		X	X	X
Offer transportation to recreational centers, parks and pools after-school	X			X	X
Engage the parent-teacher associations to prevent childhood overweight & educate families		X	X	X	
Provide recess periods every day	X		X	X	X
Serve healthy food at school events, fund-raisers, dances and parties	X	X	X	X	
Have a Registered Dietitian available to implement changes			X	X	
Use health screenings to educate students about overweight prevention	X		X		
Encourage students to ride bikes and walk to school	X		X	X	
Increase summertime activities organized at the school	X	X	X	X	X
Close the campus at lunchtime			X	X	X
Fund schools adequately so they are not dependent on vending machine income			X	X	X
Require physical education and health/nutrition education in all grades	X		X		X
Require all students to participate in physical education or a sport every day	X		X		X
Engage the entire school community on overweight prevention issues and activities	X		X	X	
Focus school activities on personal conditioning and lifestyle activities rather than competitive sports	X	X	X	X	X
Offer after-school physical activities for all skill levels	X	X	X	X	X

Strengthen the Coordinated School Health Program to promote overweight prevention			X		
Fund after-school enrichment programs for high school and middle school students	X		X		X
Implement “Healthy Food Policies” to ensure that healthful food choices prevail in schools	X		X		X
Implement quality improvement programs to improve the atmosphere and food served in school cafeterias			X	X	X
Inform all students & parents about school breakfast programs	X		X	X	
Require that a la carte foods comply with nutritional standards			X		X
Help cafeteria staff educate students & encourage healthy choices	X	X	X	X	
Create incentives for children to bring healthy lunches	X		X	X	
Price unhealthy foods more expensively than healthy foods			X	X	
Administer height and weight assessments during mandatory health screenings to assess risk and gather data			X		
Engage school nurses in data collection and outreach	X	X	X	X	X
Open school-based health centers that offer health assessments, dental screening and prevention services	X		X		
Offer new parent classes with information on nutrition, activity, prevention.	X	X	X	X	

<b>Media and Education</b>					
Target a public education campaign to parents and children involving TV, radio, schools, internet, community meetings, newsletters, per educators	X	X	X	X	
Ensure that public health and community-based agencies promote consistent messages about overweight			X	X	
Provide tailored health messages for specific communities based on community input	X			X	
Encourage peer educators, stakeholders and celebrities to speak on overweight prevention	X	X	X	X	
Work with media to promote healthier messages about body shape, eating habits, and activity that encourage health, not maximum thinness			X	X	
Show children of all shapes and sizes participating in physical activity			X	X	X
Portray characters eating a healthy diet, being physically active and talking knowledgeably about good health habits			X	X	X
Inform the public about local activities and opportunities to be active	X	X	X	X	
Work with grocers and food associations to promote healthy foods		X	X	X	
Promote healthy role models in the media	X	X		X	
Limit junk food advertising during children's programming	X		X		X
Market physical activities and healthy nutrition to make them more appealing for youth	X	X	X	X	

<b>Health Care Providers</b>					
Make overweight prevention and treatment a billable diagnosis			X		X
Mandate insurer coverage of overweight prevention and treatment			X		X
Ensure that children and families have health insurance		X	X	X	X
Work with insurers to reward benefits of healthy eating/activity			X	X	X
Provide materials on childhood overweight to health professionals with materials	X		X		
Ensure that health care providers have the training, counseling skills and cultural competence to help patients make behavioral changes			X	X	X
Require CMEs in nutrition	X		X		X
Encourage health care providers to offer assistance, education and materials to patients	X		X	X	
Develop a nutrition education curriculum for parents and implement it through community agencies	X	X		X	
Require health professional credentialing agencies to mandate continuing education in nutrition & overweight prevention			X		X
Provide education to patients in providers' offices	X	X	X		X
Offer patients practical & 'do-able' tips about healthy eating and physical activity	X	X	X		
Write "prescriptions" for patients to engage in exercise and physical activity	X	X	X		
Increase the number of bi-lingual health care staff	X	X	X	X	
Create a nutrition education curriculum to be implemented by churches, schools, and the health care community.	X	X	X	X	

<b>Neighborhood and Community</b>					
Implement a tax on foods of minimal nutritional value to fund parks and recreational facilities					<b>X</b>
Encourage the application of smart growth principles in communities.				<b>X</b>	<b>X</b>
Ensure safe walking and biking routes to schools			<b>X</b>	<b>X</b>	<b>X</b>
Promote community gardens	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
Provide incentives to restaurants and grocery stores for offering affordable, healthy foods					<b>X</b>
Provide transportation to recreational centers pools and parks from schools			<b>X</b>	<b>X</b>	
Create community car pools to connect people with activities		<b>X</b>	<b>X</b>	<b>X</b>	
Fund and promote recreation centers that offer free, supervised programs			<b>X</b>	<b>X</b>	<b>X</b>
Create safe, supervised community-centered play areas and safe ways to get there			<b>X</b>	<b>X</b>	<b>X</b>
Promote local advocacy to stakeholders			<b>X</b>	<b>X</b>	
Work with local groups to create and reinforce programs and messages, and serve as a “watchdog” on overweight and obesity			<b>X</b>	<b>X</b>	
Strengthen community organizations that serve recent immigrants		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Promote worksite education and support for employees and clients			<b>X</b>	<b>X</b>	<b>X</b>
Encourage work-sites to sponsor sports leagues, offer health insurance, access to fitness facilities, pedometers, etc	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
Decrease barriers to being active, such as lack of public transit, sidewalks, streelights		<b>X</b>	<b>X</b>	<b>X</b>	
Work with the police as community partners		<b>X</b>	<b>X</b>	<b>X</b>	
Organize mall-walking programs	<b>X</b>	<b>X</b>		<b>X</b>	
Market health foods to children & young adults	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>Research</b>					



<b>&amp; Data Collection*</b>					
Implement the Youth Risk Behavior Surveillance System (YRBSS), or another surveillance system for collecting data about weight, eating habits, and physical activity patterns of children in Maryland	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Implement a surveillance system for obesity and overweight and to follow longitudinally	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Gather and analyze data from schools and wellness centers	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Engage community agencies and individuals in identifying needs and addressing them through educational and outreach campaigns	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Collect qualitative information, such as focus group information, about health, weight and community intervention strategies	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Link health research agencies and community-based organizations to develop and implement health promotion programs	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Identify best practices	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
Survey public health professionals to identify gaps in knowledge	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

\*The category “Data Collection” does not address any specific level of the model. Rather, data collection activities contribute to information useful for gaining insight about needs at all levels of the model. For this reason, data activities are assigned to all levels.

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